

REMARKS

Claims 1, 3 and 5 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,856,297 to Durham et al. (“Durham”). Applicants respectfully disagree and traverse these rejections for at least the following reasons.

Each of the claims of the present invention requires a plurality of support structures connecting an inner surface and an outer surface of an inflatable body. Durham does not disclose or suggest such support structures.

Instead, the baffles 312 in Durham are used to connect two inner surfaces of an inflatable substrate 306. Additionally, the feedlines/control lines 303 (which are not shown in Figure 10 of Durham) are indicated as passing through inflatable structure 306 but do not provide any support, as is required by claims 1, 3 and 5 of the present invention.

Because Durham does not disclose each and every feature of the present invention, Durham cannot anticipate claims 1, 3 and 5. Accordingly, Applicants respectfully request withdrawal of the pending rejections and allowance of claims 1, 3 and 5.

The Section 103 Rejections of Claims 2 and 4

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Durham in view of U.S. Patent No. 4,510,500 to Brune (“Brune”). In addition, claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Durham in view of U.S. Patent No. 6,573,876 to Maroko et al. (“Maroko”).

IN THE DRAWINGS

Applicants note the objections to the drawings noted by the Examiner and are presently revising the drawings.

Applicants respectfully disagree and traverse these rejections for at least the following reasons.

Initially, Applicants note that claims 4 and 6 depend on claim 1 and therefore are patentable over a combination of Durham and Brune or Durham and Maroko because neither Brune nor Maroko make up for the deficiencies of Durham discussed above.

Additionally, Applicants respectfully acknowledge the Examiner's admission that, with respect to claim 2, Durham does not disclose or suggest that an inner surface of an inflatable body be mounted to a dirigible. With respect to claim 4, Applicants respectfully acknowledge the Examiner's admission that Durham does not disclose or suggest a support structure which comprises a plurality of tubes where one of the tubes is a coaxial transmission line.

For these and other reasons, Applicants respectfully submit that neither the combination of Durham/Brune nor Durham/Maroko renders obvious the claims of the present invention.

Accordingly, Applicants respectfully request withdrawal of the pending rejections and allowance of claims 2 and 4.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John E. Curtin at the telephone number of the undersigned below.

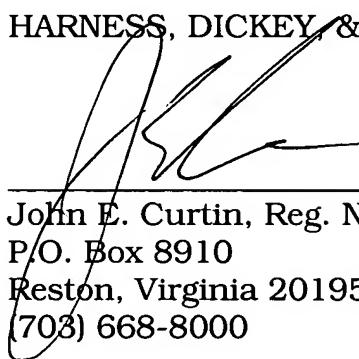
In the event this Response does not place the present application in condition for allowance, applicant requests the Examiner to contact the undersigned at (703) 668-8000 to schedule a personal interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By


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Attachment for Specification Amendments

Page 4, second paragraph:

FIG. 2 shows an embodiment of a lightweight antenna element structure 201 in accordance with the principles of the present invention. Referring to FIG. 2, antenna element 202 having illustrative radio frequency (RF) integrated circuit (IC) 203 is attached to outer surface 204. Antenna element 202 may be used, for example, to generate an RF signal in a phased array antenna. Such antennas and the electronics useful in those antennas are well known to one skilled in the art. Outer surface 204 is, for example, the top surface of an inflatable body having illustrative side walls 207 and bottom inner surface 205 (which is not visible in the view of FIG. 2). Inner surface 205 may be, for example, a metallized surface in order to serve as a ground plane for antenna element 202. Connecting tubes 206 function to connect outer surface 204 with inner surface 205 and to maintain a desired distance between those two surfaces, which is especially useful if inner surface 205 is used as a ground plane. Outer surface 204, inner surface 205, connecting tubes 206 and sides 207 are, illustratively, manufactured from a polyester film, such as a Mylar film, which is well known in the art. As is also well known, Mylar is a biaxially oriented, thermoplastic film made from ethylene glycol and dimethyl terephthalate (DMT) and is characterized by advantageous mechanical properties such as a relatively constant stiffness, strength, toughness, moisture-resistance and dimensional stability over a wide range of temperatures. Because

of these properties, Mylar is extremely resistant to puncturing and tearing and, therefore, is a useful illustrative material from which to manufacture an inflatable body. The antenna element of FIG. 2 is merely illustrative in nature and may, for example, be used in combination with a plurality of antenna elements to form an array of antenna elements.

Page 7, second paragraph:

FIG. 5 shows another embodiment 501 of a transmission line that is useful within an enclosure containing a pressurized fluid, such as the double-walled enclosure formed by using the inflatable structure 201 of FIG. 2 on a lighter than air vehicle. One skilled in the art will recognize that the transmission line of FIG. 5 may be advantageous, for example, for transmitting a signal between two electrical components on the lighter than air vehicle, such as between a signal transceiver and the aforementioned antenna elements that may be disposed on the surface of the vehicle.